

# IMPROVED UNDERLAYER FOR HIGH AMPLITUDE SPIN VALVE

## SENSORS

### ABSTRACT

A spin valve sensor system and a method for fabricating the same are provided. Such spin valve sensor includes a pinned layer having a pinned layer magnetization. Also included is a free layer disposed adjacent the pinned layer. The free layer has a free layer magnetization perpendicular to the pinned layer magnetization in the absence of an external field. A pinning layer is disposed adjacent the pinned layer for fixing the pinned layer magnetization. Further included is an underlayer disposed adjacent the pinning layer. Such underlayer comprises NiFeX. Disposed adjacent the underlayer and the pinning layer is an upper layer. The upper layer comprises a material selected from the group consisting of NiFe and CoFe for increasing a GMR ratio associated with the SV sensor.